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PLANT INDUSTRY

PLANT IMMIGRANTS

No. 202 February, 1923

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Foreign Seed and Plant Introduction

EXPLANATORY NOTE

This circular is made up principally of notes received from agricultural explorers, foreign collaborators, and correspondents, concerning the more important plants which have been received recently by the Office of Foreign Seed and Plant Introduction. It also contains reports on the behavior of plants which have been introduced in previous years.

Descriptions appearing here are revised and later published in the Inventory of Seeds and Plants Imported,-- the permanent record of plant introductions made by this Office.

Plant Immigrants should be considered merely an ANNOUNCEMENT OF THE ARRIVAL OF PLANT MATERIAL. As a rule all material is propagated before being distributed; this may require several years.

The Annual Catalogue of New Plant Introductions describes briefly the plants available for distribution. Application for seeds or plants listed in Plant Immigrants may be sent at any time, however, and will be filed in the order of their receipt. When material is ready for distribution, these requests will be given first attention; if their number is sufficient to exhaust the available supply of a given species, it will not be included in the Annual Catalogue.

Plant breeders and experimenters who desire plants not available in this country are invited to correspond with this Office which will endeavor to secure the required material through its agricultural explorers, foreign collaborators, or correspondents.

DAVID FAIRCHILD
Agricultural Explorer in Charge,
Office of Foreign Seed and Plant Introduction.

Issued April 27, 1923. Washington, D. C.

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CASTANEA spp. (Fagaceae), **Chestnut.** 56080 to 56082, 56119, and 56128. From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Quoted notes by Mr. Rock.

56080. CASTANEA sp. "(No. 6682. September 29, 1922.) A tree 60 to 100 feet tall with trunks 4 to 5 feet in diameter and hard, tough, dark-brown wood, found at an altitude of 8,200 feet and very common 4½ days west of Talifu, beyond a village called Paitoupu and 40 li (12 miles) from Yungping, where it forms dense forests. The leaves are large, broadly ovate, coarsely serrate, glossy above and silvery beneath. The burs are borne in spikes, with thick, green, short spines in spiral ridges, similar to those of *Castanea armata.* The nuts are small, something like those of the chinquapin, and very sweet and palatable. The natives cut the tree for firewood a foot above the ground; it ratoons very freely, sending forth shoots from the old stump. I have examined many trees and found no evidence of disease in this species. The timber is used for building purposes."

56081. CASTANEA sp. "(No. 6683. September 30, 1922.) A tree 50 to 60 feet high, with a straight trunk 1 to 2½ feet in diameter and ascending branches, found in yellow clay loam in forests 20 li (6 miles) from Paitoupu, 4½ days west of Talifu, at an altitude of 8,200 feet. The dark-green leathery leaves are very handsome and the numerous burs, larger than those of S.P.I. No. 56082, are borne in lateral spikes. The nuts are very sweet and delicious. These trees are perfectly healthy. Trees of this species are also found on the western slopes of the Tsangshan range, but their fruits are all attacked by worms."

56082. CASTANEA sp. "(No. 6683a. September 30, 1922.) A tree 50 to 60 feet high with a straight trunk 1 to 2½ feet in diameter, found in the mountains 20 li (6 miles) from Paitoupu near a hamlet called 'Shiao shui.' The green leathery leaves are very handsome. The burs are smaller than those of S.P.I. 56081, with the spines arranged differently, and shorter and sharper. The nuts are the same size."

56119. CASTANEA sp. "(No. 6683. September, 1922.) A tree 50 to 60 feet high with a straight trunk 1 to 2½ feet in diameter and ascending branches, found in yellow clay loam in forests 20 li (6 miles) from Paitoupu, 4½ days west of Talifu at an altitude of 8,000 feet. The dark-green leathery leaves are very handsome and the numerous burs are borne in lateral spikes. The nuts are very sweet and delicious. These trees are perfectly healthy. Trees of this species are also found on the western slopes of the Tsangshan range."

56128. CASTANEA sp. "(No. 6714. October 21, 1922.) A large tree 70 to 80 feet tall, found in white sandy micaceous soil on slopes in the mountains 30 li (9 miles) north of Manchi at an altitude of 6,500 feet. The lanceolate leaves, entire or nearly so, are fawn-colored beneath. The burs resemble those of *Castanea armata* but are smaller; the

black shining nuts are quite small. The trees of this species appeared to be free from all disease."

CATALPA DUCLOUXII (Bignoniaceae), 56084. From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(Nos. 3097, 3217.) A tree 80 feet tall, with a straight trunk 3 to 4 feet in diameter, found in the Likiang plain at 8,800 feet altitude in large groves, also south of Talifu on the Menghua Ting plain. The pinkish lilac flowers are borne in large full panicles and make the tree very ornamental. It is a very valuable timber tree, and the wood is not attacked by insects. Seeds of this tree are exported from Tengyueh to other parts of Yunnan, Tengyueh being the center of distribution. The Chinese name is 'Chun nin shu.'" (Rock.)

CHRYSOPHYLLUM MAGALISMONTANA (Sapotaceae), 56031. From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. An ornamental evergreen shrub or small tree which is common on stony outcrops in the Transvaal on frostless ridges at an altitude of 6,000 feet near Johannesburg and also in the "Middle Veld" at altitudes below 4,000 feet. The fruits, up to an inch in diameter, are agreeably acidulous and most refreshing in hot weather; they are used for making preserves and jelly by the white colonists. The natives call the tree "Stam-vruchte," because the flowers and fruits are borne on very short stalks on the stem and main branches. The tree tolerates great heat and drought. (Adapted from note of J. Burtt-Davy under S.P.I. No. 19384.)

CITRUS spp. (Rutaceae), 56058 and 56059. From Swatow, China. Plants presented by Rev. A. H. Page. Quoted notes by Mr. Page.

56058. CITRUS NOBILIS DELICIOSA. **Mandarin orange.** "A tangerine which is as large and fully as sweet as the navel orange. This fruit, among the very best of the citrus fruits of China, grows chiefly in the low delta region crossed by the Tropic of Cancer, where there is a slight frost perhaps once in ten years, during the period when the trees are dormant."

56059. CITRUS sp. "The 'soft orange,' which, like the tangerine, is easily peeled when thoroughly ripe. It will keep a long time without ice, and becomes very sweet. It is only medium size. This fruit, among the very best of the citrus fruits of China, grows chiefly in the low delta region crossed by the Tropic of Cancer, where there is a slight frost perhaps once in ten years during the period when the trees are dormant."

CORNUS CAPITATA (Cornaceae), 56085. **Bentham's cornel.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the

Bureau of Plant Industry. "(No. 6684. September 29, 1922.) A tree 30 feet or more in height with a trunk a foot or more in diameter, or at times only shrubby, found beyond Paitoupu, 2 days west of Yangpi at 8,000 feet altitude. The fruiting heads, larger than a large strawberry and of the same shape and color, have sweet flesh and are much relished; they are often sold in the markets." (Rock.)

CORNUS OFFICINALIS (Cornaceae), 56024. From Rochester, N. Y. Seeds presented by John Dunbar, First Assistant Superintendent of Parks and Arboriculturist, Department of Parks. "This resembles *Cornus mas* when in flower, but the fruits ripen in October and November, and are quite handsome." (Dunbar.)

This species, which is very closely allied to *C. mas,* is native to Chosen, and is occasionally seen in cultivation. Like *C. mas,* it has yellow flowers and red fruits, but differs in having conspicuous patches of dense, rust-colored down on the lower surfaces of the leaves, and also is somewhat coarser in habit. (Adapted from Bean, Trees and Shrubs Hardy in the British Isles, vol. 1, p. 391.)

CORYLUS sp. (Betulaceae), 56086. **Filbert.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 6635. September 24, 1922.) A shrub 6 to 10 feet high, with large hairy leaves, found among mica bowlders at the foot of the steep hills rising behind Kin ngin tui, a village not far from Yangpi, at an altitude of 6,000 feet. At this time of year, the weather here is hot. The fruits, of fairly large size, are sweet and have a flavor like hazelnuts. This shrub is worthy of cultivation for the nuts." (Rock.)

CUCUMIS SATIVUS (Cucurbitaceae), 56030. **Cucumber.** From Balavaini, Marovo Lagoon, Solomon Islands. Seeds presented by H. T. Fairbrother. "A native cucumber, which is far ahead of any other I have ever tasted. It is of medium size, with a smooth skin and an incomparable flavor." (Fairbrother.)

CUCURBITA MOSCHATA (Cucurbitaceae), 56025. **Squash.** From Libia, North Africa. Seeds presented by Dr. E. O. Fenzi. "Seeds of a local variety which weighs about 50 kilos (110 pounds). It is very popular with the natives, and with good reason, for the flesh is more intensely colored, sweeter, and of better flavor than any other variety I can remember having seen either in Italy or California." (Fenzi.)

DIOSCOREA ALATA (Dioscoreaceae), 56071. **Greater Yam.** From Fort Pierce, Fla. Tubers presented by C. S. Steele. "This yam is a strain

selected from the Hawaiian purple-skinned yam, S.P.I. No. 46768. The purple layer, just beneath the outer skin, was very thin and sharply defined in the selected tuber, - and the flesh of the tuber was white and of good quality when cooked. Yams of the purple-skinned type vary considerably with respect to the thickness of the purple layer and also in quality, and it is still to be determined whether this selection will remain constant." (R. A. Young.)

DIOSCOREA PENTAPHYLLA (Dioscoreaceae), 55924. **Yam.** From Aulnay-sous-Bois, France. Tubers presented by Prof. R. de Noter, Ecole d'Acclimatation & de Recherches Agricoles. Variety *Hortorum.* "'Igname ronde de Chine'(round yam of China). The tubers made the first season, from plants grown from 'eyes' dug and replanted, weigh 1½ kg. each; the second year the tuber may weigh 4 to 5 kg. The plant requires light sandy clay or, better, calcareous, richly fertilized soil. The tubers are gathered at the first frost and stored in the cellar. Two years' storage does not injure but improves the tubers. This yam is an excellent vegetable of delicate flavor and makes delicious fritters, cakes, and souffles. The leaves, after harvest, are used as cattle feed." (de Noter.)

DIOSPYROS spp. (Diospyraceae), 56090, 56132 to 56134. **Persimmon.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Quoted notes by Mr. Rock.

56090. DIOSPYROS sp. "(October 3, 1922.) A tree 35 feet high with a large spreading crown, which grows half wild on the hillsides near Shayang 2 days east of Yungchang. The edible persimmons, the size of a tennis ball, are orange-yellow and are very sweet and delicious."

56132. DIOSPYROS sp. "(No. 2872. Puerhfu. November 1, 1922.) A large tree 60 feet in height, with a huge spreading crown. According to Miss Clara Petersen, who sent me the seeds, the fruits are small and very sweet. This is also a fine shade tree."

56133. DIOSPYROS sp. "(No. 6717. October 23, 1922.) A wild persimmon tree 20 to 25 feet high, which grows in dense forests between Menglieh and Manchi at an altitude of 6,000 feet. The very numerous oblong, yellow fruits are the size of crab apples and sweet."

56134. DIOSPYROS sp. "(No. 6719. October, 1922.) A tree 35 feet high with few ascending branches, found on the summit ridge on the road from Hsiangta to Manchi, 4 days southeast of Tengyueh, at an altitude of 7,000 feet. The oblong, velvety, rich yellow fruits are large for a wild species, being 2 inches in diameter, and the very sweet flesh incloses large seeds."

FRAXINUS MICRANTHA (Oleaceae), 55993. **Ash.** From Dehra Dun, India. Seeds presented by R. S. Hole, forest botanist. An Himalayan

A NEW KIND OF GREENS FROM TROPICAL AFRICA.

(*Rumex abyssinicus* Jacq., S. P. I. No. 48023.)

As a source of greens during the hot summer months, the Abyssinian Rumex is of great promise. Seeds may be sown in the greenhouse or hotbed in early spring and the plants set out as soon as the soil can be worked. The plants grow 7 or 8 feet in height and continue to yield greens until cut down by frost in late autumn. The leaves are cooked and served in the same manner as spinach, but care must be taken to change the water, in cooking, to eliminate excessive acidity. (Photographed by Peter Bisset at the Yarrow Plant-Introduction Garden, Rockville, Md., October 31, 1919; P25595FS.)

Pl. 324.

AN INTERESTING RELATIVE OF THE MANGOSTEEN.

(*Garcinia oblongifolia* Champ., S. P. I. No. 36497.)

The true mangosteen (*Garcinia mangostana* L.), famed as the finest fruit of the Tropics, is produced by a tree which is so difficult to grow that it has not yet been established in many parts of the American Tropics. The species here shown, which may perhaps be called the yellow mangosteen, seems likely to prove more resistant to cold than the true mangosteen and less exacting in its soil requirements. Seeds of this interesting plant were received in 1913 through the courtesy of the late William J. Tutcher, of the Botanical and Forestry Department, Hongkong, China. The branch here shown is from a plant grown in the greenhouse at Bell, Md., from the seed sent in by Mr. Tutcher. The fruit, which strikingly suggests the mangosteen in appearance (except for its yellow color), is about 2 inches in diameter, delightfully aromatic, and subacid in flavor. (Photographed by E. L. Crandall at the Photographic Laboratory, July, 1922; P27580, 27581FS.)

ash with large leathery leaves about 9 inches long and lax terminal panicles of minute flowers. It is very similar to another Himalayan species, *Fraxinus floribunda,* from which it differs in leaf characters and in having a looser panicle. (Adapted from Engler, Botanische Jahrbucher, vol. 40, p. 217.)

GAULTHERIA sp. (Ericaceae), 56120. From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 6709. October 9, 1922.) A highly ornamental shrub 10 to 15 feet tall, with long whiplike drooping branches reaching to the ground, found on the summit of the Salwin divide at an altitude of 8,000 feet. The leaves are leathery and dark green, and the large white flowers are borne in great masses all along the branches. The fruits are dark purplish black." (Rock.)

JUGLANS REGIA (Juglandaceae), 56091. **Walnut.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 6694. September 27, 1922.) A very large tree with a huge crown, which is very numerous on the hills and slopes near Taipingpu at an altitude of about 8,300 feet. The nuts are very thick shelled and difficult to break, and are gathered by the natives for the sake of the oil. There are several varieties which vary in the shape of the nuts, some being oblong, some ovoid, and some globular; all are thick shelled." (Rock.)

MALUS spp. (Malaceae), 56092, 56094, 56095, 56097, 56098, and 56135. **Apple.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Quoted notes by Mr. Rock.

56092. MALUS sp. "(No. 6687. September 28, 1922.) A large tree with a large crown of ascending branches, found beyond Taipingpu, three days west of Talifu at an altitude of 8,200 feet. The yellowish green fruits are 2 inches in diameter,- fragrant but sour."

56094. MALUS sp. "(No. 6690. September 27, 1922.) A tree 30 feet high with a trunk 2 to 2½ feet in diameter and straight ascending branches, found wild in red clayey soil all over the ranges between Yangpi and Taipingpu at an altitude of 8,000 feet. The oblong leaves are dark green above and pale beneath; and the very numerous fruits, the size of small apples, are yellowish with a bright reddish tinge, with firm, very fragrant but sour flesh. The tree is exceedingly hardy and free from disease, and occurs here where nothing else will grow except the hardy Yunnan pine (*Pinus sinensis*)."

56095. MALUS sp. "(No. 6691. September, 1922.) A peculiar tree with long spreading drooping branches like a willow, found only along watercourses between Yangpi and Taipingpu at an altitude of 8,300

feet. The tree was loaded with small oblong fruits less than an inch long and half an inch in diameter, with dull carmine-red skin and very juicy sour flesh. I did not see this species elsewhere."

56097. MALUS sp. "(No. 6696. September, 1922.) A fine hardy tree 15 to 20 feet high, which grows wild with *Castanea* sp. in the hills between Huanglienpu and Chutung. The flowers are red and the yellowish red fruits are 2 inches in diameter. These seeds were collected beyond Shiashuichi."

56098. MALUS sp. "(No. 6698. October 4, 1922.) A tree 20 feet tall which grows wild in the mountains beyond Pingpo, on top of the western ridge of the Mekong valley at an altitude of 8,000 feet. The tree was loaded with thousands of dark-crimson, oblong, mealy fruits the size of wild cherries; in fact, the tree could be mistaken at a short distance for a cherry tree. It is a prolific bearer and grows in clay loam mixed with slate."

56135. MALUS sp. "(No. 6721. October 30, 1922.) A much branched tree 35 to 40 feet high, collected in the mountains of the Shweli basin near Lungling at an altitude of 6,700 feet. The foliage grows down to the ground and the lanceolate leaves are dark green above and silvery white beneath. The somewhat ovoid, greenish yellow fruits are 2½ inches in diameter, with very fragrant but very sour, firm flesh."

PANGIUM EDULE (Flacourtiaceae), 56067. From Manila, Philippine Islands. Seeds presented by A. Hernandez, director, Bureau of Agriculture. "Seeds of Pangi (*Pangium edule*) obtained from the barrio of Panag-an, municipality of Lagonoy, Camarines Sur. Pangi seeds yield about 50 per cent of pitjoeng, or samaun, oil having the following constants (see Bureau of Forestry, Manila, Philippine Islands, Bulletin No. 20, p. 159): Specific gravity 0.937, saponification value 178 - 183, iodin value 89.94, titer test of fatty acids 44.4." (Hernandez.)

"I have just eaten this fruit for the first time; it is quite similar to the 'marang' (*Artocarpus odoratissima* Blanco) in flavor, being very sweet and rich. The flesh is rather scant and the seeds large, but some day we may discover a seedless one and then we shall have a real feast. The fruit is so large that one (seedless) would be enough for 3 to 5 people." (P. J. Wester.)

A Philippine tree which reaches a height of 25 meters (82 feet), with very large, smooth, pointed leaves and yellowish green flowers. The brown oval fruit is over 6 inches long and contains several seeds imbedded in a yellowish, edible pulp. The fresh seeds are poisonous, but steeping them in water makes them edible. (Adapted from Brown, Wild Food Plants of the Philippines, p. 126.)

PHASEOLUS spp. (Fabaceae), 56072 and 56073. From Santiago de las Vegas, Cuba. Seeds presented by Dr. Mario Calvino, director, Agri-

cultural Experiment Station. Quoted notes by Dr. Calvino.

56072. PHASEOLUS CALCARATUS. **Rice bean.** "'Frijol Mambi or Diablito.' Seeds of this variety were originally sent from Oriente, where the plant grows spontaneously in the thickets. The seeds are small, about the size of a grain of rice, kidney shaped, and dark red. It is a pole bean of rapid growth and is very productive."

56073. PHASEOLUS LUNATUS. **Lima bean.** "This is a good variety of pole lima which I imported from Trujillo, Peru."

PRUNUS sp. (Amygdalaceae), 56121. **Plum.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 6700. October, 1922.) A tree 20 feet in height, with spreading crown, which grows wild along brooks in the mountains between Shiaoshuichi and Chutung at an altitude of 6,000 feet. The small, globose, yellow, clingstone plums are little more than an inch in diameter, with firm rather sour flesh." (Rock.)

PYRUS spp. (Malaceae), 56101, 56111, 56122, 56123, 56137, 56138, 56142, and 56143. **Pear.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Quoted notes by Mr. Rock.

56101. PYRUS sp. "(No. 6636. September 24, 1922.) A wild pear tree 15 feet high, which grows in well-drained soil among huge bowlders on the steep hillsides back of the temples of Fu Kwe Ssu, back of the village of Kin ngin tui, 20 li (6 miles) from Yangpi. The fruits, larger than any of the ordinary wild pears collected except S.P.I. 56003, are more pear shaped, with yellowish brown skins and very subacid flesh. This species is very hardy and perfectly free from disease. The region where it grows has a hot dry spring, a rainy summer, a hot humid autumn, and a cold winter season of two months."

56111. PYRUS sp. "(October, 1922.) A tree 30 feet high, with ascending whiplike branches, found wild in the valley between Shiashuichi and Chutung at an altitude of 6,500 feet. The tree was loaded with the small, ovoid, russet-yellow, very juicy fruits and was very ornamental."

56122. PYRUS sp. "(No. 6701. October, 1922.) A tree 25 feet high, found in clay soil on the mountains between Hoachiao and the temple of Yung Kwe Ssu, Shayang village, at 6,000 to 7,000 feet altitude. The fruits of this tree are larger than those previously found north of Talifu. The natives use this tree as a stock plant."

56123. PYRUS sp. "(No. 6708. September, 1922.) A very hardy tree 25 to 30 feet high, growing in hard clay soil in the mountains near Yangpi at an altitude of 7,000 feet. The russet-yellow fruits are the size of small marbles."

56137. PYRUS sp. "(November 1, 1922.) A wild pear from the

mountains near Puerhfu, where it grows at an altitude of about 6,000 feet. The fruits are globose, brown and spotted, and of very sweet flavor. These seeds were sent to me by Miss Clara Petersen, missionary, of Puerhfu."

56138. PYRUS sp. "(November 1, 1922.) Collected half a day's journey from Puerhfu, in the mountains. The fruit is large, several inches in diameter, juicy, and contains only one or two seeds. These seeds were sent to me by Miss Clara Petersen, missionary, of Puerhfu."

56142. PYRUS sp. "(No. 6718. October, 1922.) A wild pear tree 25 to 30 feet in height, with long drooping and ascending central branches, found beyond Menglieh, a day and a half south of Tengyueh. The leaves are oval, broadly heart shaped, and the globose, yellowish red, spotted fruits, an inch or less in diameter, are closely related to *Pyrus pashia* of southern Yunnan."

56143. PYRUS sp. "(No. 6720. October, 1922.) A wild pear tree 35 feet high, spreading in habit, with stout trunk and blackish brown bark, found in sandy soil at the summit ridge leading to Mengshi, four days from Tengyueh, at an altitude of 7,000 feet. The leaves, bronze-colored to red, are oblong, acuminate at the apex and acute at the base, and the very numerous spherical, yellowish red, spotted fruits are an inch in diameter."

QUERCUS sp. (Fagaceae), 56112. **Oak.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 6712. September, 1922.) A shrubby oak 10 feet high, which forms dense bushes on the hills beyond Hsiakuan, a day's trip west of Talifu at an altitude of 6,800 feet. The tree is a heavy bearer, but the acorns are not palatable." (Rock.)

RICINUS COMMUNIS (Euphorbiaceae), 56027. **Castor-bean.** From Albion, Brisbane, Queensland. Seeds presented by W. Ewart, secretary, Queensland Acclimatisation Society. "'Bowen Hills.' This variety was raised from seeds obtained by the Queensland Acclimatisation Society from Bowen Hills and grown at Lawnton, Queensland, where it is considered the best of 60 varieties there cultivated. The plant is a vigorous grower, forms numerous large seed heads, and is remarkably free from disease and insect pests." (Ewart.)

ROSA spp. (Rosaceae), 56113 and 56126. **Rose.** From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Quoted notes by Mr. Rock.

56113. ROSA ROXBURGHII. "(No. 6583. September 23, 1922.) A low shrubby rose 2 to 4 feet high, distributed from Talifu to the Hsiakuan plain at an altitude of 6,800 feet. It is a very attractive rose, with its large handsome bright-red buds and large bright magenta-red flowers.

The compressed-fig-shaped fruits are an inch in diameter."

56126. ROSA sp. "(No. 6692. September 7, 1922.) A large rambling or climbing shrub with long, stout branches, which grows in the pine forest back of Yangpi, 2 days west of Talifu at an altitude of 6,000 feet. The flowers are said to be large and whitish cream-colored, and the fruits deep red to orange."

RUBUS sp. (Rosaceae), 56114. From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 6706. October, 1922.) A spineless shrub 8 feet high, with ascending branches, found at an altitude of 8,000 feet on the top of the range separating the Salwin and Shweli watersheds. The leaves, palmately divided into 3 to 5 separate leaflets, are prominently ribbed and silvery beneath, and the solitary, small fruits are yellowish red and watery. The shrub is very ornamental." (Rock.)

THEA sp. (Theaceae), 56115. From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 6697. October 2, 1922.) A tree 40 to 50 feet tall, with a trunk over a foot in diameter, found growing in the temple grounds of Yung Kwe Ssu, between Yungping and Shayang, at an altitude of 8,000 feet. The flowers are said to be white and 4 inches across, and the fruits as large as a man's fist." (Rock.)

VIBURNUM sp. (Caprifoliaceae), 56116. From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 6699. October 4, 1922.) A beautiful shrub 5 to 8 feet high, of spreading habit, found on the ridges beyond the valley of the Mekong, between Pingpo and Pangchiao, at an altitude of 8,000 feet in a forest composed of *Pinus armandi* and *Thea* sp. The shrub was covered with clusters of small crimson berries which were almost transparent. They are somewhat acid and may be used for making jellies." (Rock.)

ZIZIPHUS sp. (Rhamnaceae), 56127. From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. "(No. 6695. September 27, 1922.) A very hardy tree 20 feet high, with a large, spreading crown, found growing wild in yellow clay soil on the hills back of Yangpi, in company with *Pinus sinensis,* at an altitude of 6,500 feet. The fruits, the size of small olives, are borne in large numbers; they are green with a slight reddish tinge, inedible, with almost no flesh, being mostly skin and stone. The seeds are large, angular, and brown." (Rock.)

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION
BUREAU OF PLANT INDUSTRY
UNITED STATES DEPARTMENT OF AGRICULTURE

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